

Technical Note – Forestry

North Carolina



March 2003

Planting, Culture, and Maintenance Requirements for Longleaf Pine

Longleaf pine is an excellent species to establish on many sites in the coastal plain and piedmont of North Carolina and South Carolina. While longleaf is a relatively slow grower, it has excellent form and will produce high quality sawtimber and poles. In addition, collection of pine straw has become a locally important industry in the Sandhills that allows for early economic return.

Longleaf pine can, however, be very difficult to successfully establish. Following are some tips for successful planting, which were gathered during NC Forest Service training sessions.

Problem Sites - Problem sites should be identified and either avoided or the limitation addressed. They include fields that have plow pans, a heavy cover of grasses and weeds, and chemical carry-over (especially Command and Classic). Poorly drained sites are particularly difficult because of heavy weed competition. Fields where animal waste has been spread should be avoided.

Site Preparation - Longleaf is intolerant of wetness, shade, and weed competition, so it is important to do the site preparation correctly the first time. Planting without site preparation, “plant only,” is not an option. Burning, bedding, scalping, and application of herbicides (pre-plant and post-plant) are commonly needed. Commonly used herbicides include Arsenal, Oust, Velpar, and tank mixes that include these products.

Seedlings - Bare-root seedlings should have a minimum 6-inch taproot, 0.4-inch root collar diameter (RCD), and 5 first order laterals. Containerized seedlings should have a 0.2 inch RCD, (0.4 inch is better), 3 inch minimum needle length, and intact plugs of planting medium. Seedlings that do not meet these quality standards should be culled.

Storage - Seedlings should be stored at 35-38 degrees F. Coordinating the seedling delivery date with the nursery is important. Bare-root seedlings can be stored for a maximum of 10 days. Containerized seedlings can be stored for a few weeks if the temperature is controlled. Refrigeration units can be rented and may be required.

Planting - Containerized seedlings should be planted before December. Bare-root seedlings are pulled from the nursery and planted before March. A KBC planting bar or modified KBC planting bar are needed to plant bare-root seedlings by hand. A plug dibble is best for hand planting containerized seedlings. Both containerized and bare-root seedlings can be successfully planted by machine.

Culture and Maintenance - Pre-plant mechanical and chemical competition control is most important. Post-plant competition control may include treatment with herbicides, mowing, and burning. Longleaf can be burned within the first two years after planting because it is fire resistant in the grass stage. Low intensity fire can be re-introduced into the stand when trees grow to >3 inch ground line diameter and 4.5 feet in height.